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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,526	12/04/2003	Makoto Kuwamura	032153	5932

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EXAMINER	
JUBA JR, JOHN	

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/726,526	KUWAMURA, MAKOTO	
	Examiner	Art Unit	
	John Juba, Jr.	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3, and 6 - 17* is/are rejected.

7)☒ Claim(s) *2,4 and 5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by SEKISUI CHEM CO (JP 09-090344A; hereinafter "SEKISUI"). Referring for example to Figure 3 and the attached machine-assisted translation, SEKISUI disclose a polarizer comprising a pair of TAC protective sheets laminated to opposite sides of a PVA polarizing layer (paras. [0009] & [0010]). The lamination, which begins with a degree of curl from having been wound on a roll and which is susceptible to further curling due to curing of the adhesive layers, is stacked with similar laminations, such that their respective curvatures (from winding) are oppositely directed. The cured final lamination (*e.g.*, 7) is substantially free from curling.

With particular regard to claim 6, the recited process steps are considered limitive of the claimed final *structure* to the extent that they clearly require the polarizing plate to comprise a protective layer on each side of a polarizer layer. Further, it is believed that one of ordinary skill would understand the recited article to be substantially free from curl. However, "[p]rocess limitations cannot impart patentability to product claim where product is not patentably distinguished over prior art." *In re Dike,* 157 USPQ 581 (CCPA 1968). It is well-settled that the "[p]resence of process limitations in

product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to that product." *In re Stephens,* 345 F.2d 1020 (CCPA 1965), 145 USPQ 565,citing *Dilnot.* In the instant case, the prior art polarizing plate appears to have all of the structure as would arise from the recited process steps. The claim is directed to the polarizer as a lamination, and the prior art lamination comprises the polarizer layer and protective layers arranged as recited to form a flat lamination. Applicant has disclosed a method of characterizing the *degree* of curl when the protective films are separated. However, it is not clear how "an intrinsic *tendency* to curl" [emphasis added] of a film *in the lamination* is to be measured. Further, there is nothing on the present record to demonstrate that a protective layer *in the lamination* having a "tendency" to curl in one direction would be *structurally* different from the prior art protective film, when in the lamination.

With particular regard to claim 10, the protective sheets of the prior art are not separated from the polarizer layer. Thus, the recitation of their curled state upon separation is immaterial. Similarly, the recitation of an "intrinsic tendency to curl" is directed to the behavior of the protective layers *upon separation*, rather to any clear structural characteristic of the protective layers. Even if such a tendency were expected to contribute to stress in the layer, the actual stress manifested in the layer *while in the lamination*, would depend upon the material parameters of the adjoining layers. Thus, even an expression of the stress in the layer would not convey an intrinsic or inherent property of the layer itself. The claim is clearly directed to the polarizing plate having non-separated layers, and the prior art article has the recited non-separated layers.

Further, to the extent that it *may* later be held that the claim requires the protective sheets to have some intrinsic curl, then it is noted that SEKISUI disclose an uncured polarizing plate (*e.g.,* 7) comprising protective sheets with intrinsic curl wherein the curling directions of said protective sheets are opposite to each other when separated from the polarizer, *when one of the sheets is reversed.*

Claims 6 - 9 and 10 – 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Pekko (U.S. Patent number 4,292,370). Referring to Figure 1 and the associated text, Pekko discloses a method of forming a polarizing plate comprising the step of laminating a pair of protective sheets (20)(50) onto opposite surfaces of a polarizer (15) respectively.

With regard to claims 6 – 9, the recited process steps are considered limitive of the claimed final *structure* to the extent that they clearly require the polarizing plate to comprise a protective layer on each side of a polarizer layer. Further, it is believed that one of ordinary skill would understand the recited article to be substantially free from curl. However, "[p]rocess limitations cannot impart patentability to product claim where product is not patentably distinguished over prior art." *In re Dike,* 157 USPQ 581 (CCPA 1968). It is well-settled that the "[p]resence of process limitations in product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to that product." *In re Stephens,* 345 F.2d 1020 (CCPA 1965), 145 USPQ 565,citing *Dilnot.* In the instant case, the prior art polarizing plate appears to have all of the structure as would arise from the recited process steps. The claim is

directed to the polarizer as a lamination, and the prior art lamination comprises the polarizer layer and protective layers arranged as recited to form a flat lamination. Applicant has disclosed a method of characterizing the *degree* of curl when the protective films are separated. However, it is not clear how "an intrinsic *tendency* to curl" [emphasis added] of a film *in the lamination* is to be measured. Further, there is nothing on the present record to demonstrate that a protective layer *in the lamination* having a "tendency" to curl in one direction would be *structurally* different from the prior art protective film, when in the lamination.

With particular regard to claims 10, *et seq.,* the protective sheets of the prior art are not separated from the polarizer layer. Thus, the recitation of their curled state upon separation is immaterial. Similarly, the recitation of an "intrinsic tendency to curl" is directed to the behavior of the protective layers *upon separation*, rather to any clear structural characteristic of the protective layers. Even if such a tendency were expected to contribute to stress in the layer, the actual stress manifested in the layer *while in the lamination*, would depend upon the material parameters of the adjoining layers. Thus, even an expression of the stress in the layer would not convey an intrinsic or inherent property of the layer itself. The claim is clearly directed to the polarizing plate having non-separated layers, and the prior art article has the recited non-separated layers.

With particular regard to claims 7, 9, 11, and 13, the examiner believes that the transparent substrate (2) fairly constitutes an additional optical layer, within the specificity recited.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7 – 9 and 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over SEKISUI CHEM CO (JP 09-090344A; hereinafter "SEKISUI"), in view of Official notice. As set forth above for claims 6 and 10, SEKISUI disclose the invention substantially as claimed. However, SEKISUI do not disclose an additional "optical layer" and do not disclose a display. Nonetheless, SEKISUI clearly disclose that the polarizing plates with tacky adhesive layers are "used for liquid crystal display devices" (abstract, and paras., [0001] & [0020]).

The examiner takes Official notice of the fact that it was well known that liquid crystal displays include at least one transparent substrate. Further, it was well known to laminate additional optical functional layers to the polarizer plate of liquid crystal displays. Such optical films as compensation layers were known to provide reduced false coloration over a range of viewing angles, while anti-glare layers were known to provide enhanced viewing by reducing veiling glare.

It would have been obvious to one of ordinary skill to laminate the polarizer plate of SEKISUI with a liquid crystal display, since SEKISUI expressly suggest such use. In so doing, the examiner believes that the plate would at least have been laminated with at least a transparent substrate of the liquid crystal display. Since the substrate is specified as being light transparent, it is believed that the substrate fairly qualifies as an "optical layer" within the specificity recited. However, if such is not the case, then it would have been obvious to one of ordinary skill to laminate a compensating layer or an anti-glare layer to the polarizer plate in the interest of providing a wider range of viewing angles free from false-coloration, or in the interest of providing enhanced viewing with less viewer fatigue, as was well known.

Claims 1, 3, 6 – 9, and 10 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pekko (U.S. Patent number 4,292,370), in view of (U.S. Patent Appl. Pub. no. 2003/0230379 A1). Referring to Figure 1 and the associated text, Pekko discloses a method of forming a polarizing plate comprising the step of laminating a pair of protective sheets (20)(50) onto opposite surfaces of a polarizer (15) respectively. Thus, with regard to claim 1 and its dependent claims, Pekko discloses the method substantially as claimed. However, Pekko does not disclose the protective sheets having an intrinsic tendency to curl or any particular curling direction at the time they are joined with the polarizer (polarizing layer). With regard to claims 10, *et seq.,* to the extent that *it may* later be held that Pekko does not disclose the protective sheets as

recited, then Pekko discloses the claimed structure substantially as claimed, but does not disclose a structure comprising protective layers with the recited tendency to curl.

Roubik teaches that prior art protective films are subject to residual intrinsic curling as a result of having been provided and stored as roll stock and that the intrinsic curling tends to undermine the reliability of a laminate joined with the curled protective layers. In order to overcome this difficulty, Roubik teaches that the curled protective sheets should be applied to opposite surfaces of the central, protected layer respectively so that respective curling directions of said pair of curled protective sheets are reverse to each other.

It would have been obvious to one of ordinary skill to provide the protective layers of Pekko with their respective curling directions opposite each other, in the interest of providing a laminate that is less prone to delamination, as suggested by Roubik.

With particular regard to claims 7, 9, 11, and 13, the examiner believes that the transparent substrate (2) fairly constitutes an additional optical layer, within the specificity recited.

With regard to claims 14 – 17, Pekko discloses the use of a pressure sensitive adhesive (34) to join the polypropylene protective layer (20) with the polarizing layer (Col. 4, lines 20 – 25) and the use of a pressure sensitive adhesive (42) to bond the polypropylene layer (50) with the polarizing layer (Col. 5, line 3).

Claims 7, 9, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pekko, in view of Official notice, or in the alternative over Pekko and Roubik, in view of Official notice. As set forth above for claims 6 and 10, Pekko discloses the invention substantially as claimed, alone, or at least in combination with Roubik. However, if it *may later be held* that the transparent substrate (2) of Pekko is not an "optical layer" within the meaning of the present specification, then the examiner takes Official notice of the fact that well known to laminate additional optical functional layers to the polarizer plate of liquid crystal displays. Such optical films as compensation layers were known to provide reduced false coloration over a range of viewing angles, while anti-glare layers were known to provide enhanced viewing by reducing veiling glare.

It would have been obvious to one of ordinary skill to laminate the polarizer plate of Pekko, or of Pekko in view of Roubik with a compensating layer or an anti-glare layer to the polarizer plate in the interest of providing a wider range of viewing angles free from false-coloration, or in the interest of providing enhanced viewing with less viewer fatigue, as was well known.

Allowable Subject Matter

Claims 2, 4, and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art, taken alone or in combination, fails to teach or fairly suggest the polarizing plate particularly wherein the curled protective sheets have a laminating index of not higher than 60, as defined in claim 2.

Response to Amendment

Applicant's amendment of claim 4 obviates the duplicate claim warning previously entered.

Applicant's submission of a verified translation of priority document is sufficient to perfect the claim for priority under 35 U.S.C. §119(a-d). Accordingly, the previous rejection of claims 1, 3, 4, and 6 – 13 under 35 U.S.C. §102(e) as being anticipated by Ito, et al (U.S. Patent Appl. Pub. no. 2003/0169497 A1) is *withdrawn*.

Applicant's remarks concerning the structure of SEKISUI CHEM CO (JP 09-090344A) have been fully considered, but are not found persuasive. The examiner wishes to clarify a point raised with respect to the SEKISUI reference as discussed during the interview conducted on June 2, 2005. The lamination step illustrated in Figure 1 of the reference is one in which a release layer (3) is joined with a polarizing *plate* (1) such that the curl directions are similarly directed. As disclosed in the reference, the polarizing plate (1) comprises a PVA polarizing layer joined on both sides thereof with TAC protective layers. It is *these* protective layers that are the subject matter of the present discussion. It is true however, that the polarizing plate has been stored on a roller such that the protective layers and polarizing layer have a

similarly directed curl. Nonetheless, as now set forth in the rejection, the recitation of a "tendency to curl" is not believed to be a material parameter of the protective layers *when in the lamination*. While it may be the case that, when laminated into a flat layer system, a film that begins with a curl in one direction is placed either in compression or tension, the degree of compressive or tensile stress is not an inherent material property of the one film layer, but rather varies with the material properties (*e.g.,* elastic modulus, Poisson ratio, *etc.*) of the adjoining layers. Thus, it appears that the recitation of the protective film layers as having begun with a particular curl, or as having a particular tendency to curl, does not convey any clear structural (or for that matter optical) characteristic of the lamination that would distinguish it from the prior art.

Since the base reference is not believed to be deficient in the manner relied upon by Applicant in the response, and since the additional limitations have not been further argued, the previous rejection of claims 7 – 9 and 11 – 13 under §103(a) as being unpatentable over SEKISUI CHEM CO (JP 09-090344A; hereinafter "SEKISUI"), in view of Official notice stands as previously set forth.

The rejection of claim 4 under §102(b) as being anticipated by Pekko, or alternatively under §103(a) as being unpatentable over Pekko, in view of Roubik has been overcome by the amendment of claim 4 to include the subject matter of claim 2.

The previous rejection of claims 1 and 3 as being anticipated by Pekko is withdrawn in light of Applicant's remarks, since Pekko do not expressly disclose anything about the intrinsic tendency of the protective layers to curl during conduct of the method step of joining them with the polarizer (polarizing layer).

Applicant's remarks concerning the teachings of Pekko taken alone have been fully considered, but are not found persuasive. As set forth in the rejection, and discussed above in connection with SEKIUI, the recitation of a "tendency to curl" is not believed to be a material parameter of the protective layers *when in the lamination.*

Applicant's remarks concerning the teachings of Roubik have been fully considered, but are not found persuasive. Although the disclosure of Roubik is in the field of thermal lamination, it is *not* a field "excluding the optical field" as alleged by Applicant. Notably, Roubik suggests laminating films with an optical character (para. [0043]). Secondly, the mechanical changes Roubik seeks to avoid do not result solely because the films are thermally laminated (as suggested by Applicant). Instead, Roubik clearly discloses that films such as polypropylene have stresses induced during their manufacture, and that the films have "memory" of these bending forces which is manifested as curl. Thirdly, the field of thermal lamination is hardly foreign to the art of forming polarizing films. Miyashita, et al and Tsuchimoto, et al (made of record below) both disclose polarizer plates made by thermally laminating a protective film on each side of a polarizing layer. Thus, the endeavor of Roubik is not foreign to that of Pekko. Certainly, if it were found that Roubik suggested heat laminating the polarizing plate of Pekko, one of ordinary skill would have certainly arrived at a workable range of laminating temperatures through routine experimentation. However, the rejection was not to bodily incorporate the heat laminating method of Roubik into the laminating method of Pekko, but rather to execute the method of Pekko such that the protective layers are joined to the polarizing layer with their curling tendencies oppositely directed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsuchimoto, et al (U.S. Patent Appl. Pub. no. 2002/0145801 A1) disclose three examples (paras. [0067] – [0074]) of PVA polarizers with protective layers heat laminated on both sides thereof.

Miyashita, et al (U.S. Patent number 5,783,299) disclose a PVA polarizer with PET protective layers heat laminated on both sides thereof (Col. 33, lines 50 – 60).

SHARP CORP (JP 61-070504A) was cited in the last Office action, as disclosing a method of reducing bending in a polarizer plate, but there was a typographical error in the document number as it appeared on the PTO-892 form.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Juba whose telephone number is (571) 272-2314. The examiner can normally be reached on Mon.-Fri. 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Drew Dunn whose number is (571) 272-2312 and who can be reached on Mon.- Thu., 9 – 5.

The **new centralized fax phone number** for the organization where this application or proceeding is assigned is (571) 273-8300 for *all* communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2800.

9/8/05

JOHN JUBA, JR.
PRIMARY EXAMINER
Art Unit 2872

September 8, 2005